REMARKS / ARGUMENTS

Claims 1-22 and 24-46 are pending in the instant application. Claim 23 has been previously cancelled. Claims 1, 9, 17, 27 and 37 are independent claims. Claims 2-8, 10-16, 18-22, 24-26, 28-36, and 38-46 depend from claims 1, 9, 17, 27 and 37, respectively. Claims 1, 9, 17-22, 24-25, 27 and 37-41 are amended to clarify the claim language. The Applicant points out that the amendments to the claims find support in, for example, Figs. 9a-b and the related description in paragraphs 24 and 87-88. The Applicant respectfully submits that the claims define patentable subject matter in view of the following remarks.

Claims 1-22 and 24-26 are rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the written description requirement. Claims 17-25 and 27-41 are rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite. Claims 1-22 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPP 20020085719 ("Crosbie") in view of USPP 20030134642 ("Kostic").

I. Rejection to Claims 1-22 and 24-26 under 35 U.S.C. 112, First Paragraph

Claims 1-22 and 24-26 are rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the written description requirement. The Office Action states the following:

> "Examiner cannot find the amended claimed feature **involving one access device with plurality of access points** and a switch as recited in amended claims 1-22 & 24-26 for example amended claim 1 recites i.e., "**Communicating information of said determined optimal load balancing** for said **more** of said plurality of access points **to said access device**, wherein Said access device reestablishes communication with **more** of said plurality of access points **based on said communicated information of said determined optimal load balancing**".

See the Office Action at page 3 (emphasis added). The Examiner alleges that the amended claimed feature **involving one access device with a plurality of access points** and a switch as recited in amended claims 1-22 & 24-26, is not supported in Applicant's specification. The Applicant respectfully disagrees and refers the Examiner to, for example, Applicant's Figs. 2 and 3. Applicant's Fig. 3 discloses an access device, such as access device 328, which sends polling messages to one or more access points (e.g., AP 310, 312 and 314) in the hybrid WLAN 300. The Examiner is also referred to the following paragraph:

> "[20] Aspects of the invention may provide a system and method for load balancing in a hybrid wired/wireless local area network. A method for load balancing in a hybrid wired/wireless local area network may include the step of **receiving a polling message of an access device by at least one of a plurality of access points**. In response to the polling message, determining a load on one or more of the access points and **sending the determined load from one or more of the access points to the access device**. One or more of the access points located in an operating range of the access device may interpret the polling message. An access point having a least load may be selected by an access device to provide service."
>
> "[21] The method may further include **sending the polling message from one or more access points to a switch using a messaging protocol message** and receiving at least one polling

> message by the switch. Accordingly, a load on one or more of the access points may be determined. Information corresponding to the determined load may be sent to one or more access points using a messaging protocol message. A load on one or more of the access points may subsequently be redistributed to provide an equitable load distribution among the access points."

See paragraphs [20]-[21] of the specification (emphasis added). The Applicant points out that the combination of paragraphs [20]-[21] support the recited feature **involving one access device with a plurality of access points** and a switch, as recited in claims 1-22 and 24-26.

The Examiner also states the following in the Office Action:

> "Examiner also cannot find the claimed communicating method involving receiving, communicating and reestablishing method steps **involving multiple access points** as recited in amended claims 1-22 & 24-26 for example amended claim 1 recites i.e., "Receiving more polling message from an access device by **more of a plurality of access points**, responsive said **more polling message**, Communicating a load on **more of said plurality of access points** to a switch, wherein said switch determines optimal load balancing for **more of said plurality of access points** based on said communicated load; and Communicating information of said determined optimal load balancing for said **more of said plurality of access points** to said access device, wherein said access device re-establishes communication with more of **said plurality of access points** based on said communicated information of said determined optimal load balancing."

See the Office Action at page 3 (emphasis added). The Examiner alleges that the amended claimed communicating method involving receiving, communicating and **reestablishing method steps involving multiple access**

points, as recited in claims 1-22 and 24-26 are not found in Applicant's specification.

The Examiner is further referred to the following citation:

> "[48]…Similarly, **switch 222** may be **adapted to communicate load balancing related information to any one or more of access points 224, 226, 228, 230, 232 and vice versa**. The load balancing information may be used by an access point to efficiently allocate, distribute and/or de-allocate system resources **for associating and/or dissociating access devices**."

See paragraph [48] of the specification (emphasis added). Paragraph [48] clearly discloses a switch 222 communicating load balancing related information **to a plurality of access points** 224-232. Paragraph [48] also discloses an embodiment of the invention, in which an access point may use the communicated load balancing information to associate and/or disassociate (i.e., **establish or re-establish communication**) the access devices within the hybrid WLAN 200.

In this regard, paragraphs [20], [21] and [48] support "receiving one or more polling messages from an access device by one or more of a plurality of access points, responsive to said one or more polling message; communicating a load on said one or more of said plurality of access points to a switch, wherein said switch determines optimal load balancing for said one or more of said plurality of access points based on said communicated load; and communicating information of said determined optimal load balancing for said one or more of said plurality of access points to said access device, wherein said access device selects and re-

establishes communication with one or more of said plurality of access points based on said communicated information of said determined optimal load balancing," as recited in Applicant's claim 1.

Based on the foregoing arguments, the Applicant respectfully requests that the rejection of claims 1-22 and 24-26 under 35 U.S.C. 112, first paragraph be withdrawn.

II. Rejection to Claims 17-25 and 27-41 under 35 U.S.C. 112, Second Paragraph

Claims 17-25 and 27-41 are rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite. The Examiner states the following:

> "Claims 17-25 and 27-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding Claim 6, cited claim limitations **"operable to" renders the claim indefinite because "operable to" is typical of claim limitation, which may not distinguish over the prior art**. It has been held that the recitation that an element such as "operable to" "adapted to" performing a function **is not a positive limitation but only requires the ability to so perform**."

See the Office Action at page 4 (emphasis added). The Examiner seems to have made a mistake in including claims 27-36 in the rejection, since the claim language "operable to" is not recited in claims 27-36. Also, claim 23 was previously cancelled.

Regarding the claim language of "operable to" being indefinite, the Applicant respectfully disagrees that it is not a positive limitation. Nevertheless, in

order to advance prosecution, the Applicant has deleted "operable to" and has instead used an active verb in claims 17-22, 24-25 and 37-41. The Applicant respectfully requests that the rejection of claims 17-22, 24-25 and 37-41under 35 U.S.C. 112, second paragraph be withdrawn.

REJECTION UNDER 35 U.S.C. § 103

In order for a *prima facie* case of obviousness to be established, the Manual of Patent Examining Procedure, Rev. 6, Sep. 2007 ("MPEP") states the following:

> The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

See the MPEP at § 2142, citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), and *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval). Further, MPEP § 2143.01 states that "the mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art" (citing *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007)). Additionally, if a *prima facie* case of

obviousness is not established, the Applicant is under no obligation to submit evidence of nonobviousness.

> The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

See MPEP at § 2142.

III. The Proposed Combination of Crosbie and Kostic Does Not Render Claims 1-22 and 24-26 Unpatentable

The Applicant now turns to the rejection of claims 1-22 and 24-46 under 35 U.S.C. 103(a) as being unpatentable over Crosbie in view of Kostic.

A. Rejection of Independent Claims 1, 9, 17, 27 and 37

With regard to the rejection of independent claim 1 under 35 U.S.C. § 103(a), the Applicant submits that the combination of Crosbie and Kostic does not disclose or suggest at least the limitation of "responsive to said one or more polling message, **communicating a load on** said one or more of **said plurality of access points to a switch**," as recited in Applicant's claim 1.

In the Office Action, the Examiner states the following:

> "Regarding claim 1, Crosbie discloses …Receiving one or more polling message from an access device by one or more of a plurality of access points in a hybrid wired/wireless local area network [receiving service request message from mobile device by access point in a hybrid wired/wireless local area network [hybrid wired/wireless network: Figure 1] [service request message: 0044];"

> "communicating a load on said one or more of said plurality of access points to a switch, wherein said switch determines optimal loading balancing for said one or more of said plurality of access points based on said communicated load [Roaming server i.e., switch: 0035] [In responsive to service request message, Roaming server determines loads on access points and centrally controls the network based on determined loads on access points for load balancing among access points and improving the radio link quality of service: 007, 0042-0047 & 0055];"

See pages 4-5 at the Office Action. The Examiner relies for support on the following citation of Crosbie:

> "In operation, the mobile device 26 **requests service** from an access point 24 by **sending a request** along with the device address of the mobile device 26. The access point 24 would normally respond by paging the mobile device 26 and starting the synchronization between the access point 24 and the mobile device 26. Instead, in the present invention, **the access point 24 passes the request along with the device address of the mobile device 26 back to the roaming server 22 which looks up the user's service level data 47 in the device database 42** (see FIG. 2) **and the loading on each of the relevant access points 24** (e.g., traffic or congestion on the subnet that the mobile device 26 is connected to). In the case of the Bluetooth technology, the roaming server 22 then directs that the mobile device 26 connect to the appropriate access point 24 (this may not be the access point 24 that received the request). For example, the mobile device 26 requests service from access point 24-1, but, **after determining the user's service level, the roaming server 22 signals access point 24-2 to page the mobile device 26 and establish a connection** 30-2. In the case of the IEEE 802.11 technology, the roaming server 22 signals to all the relevant access points 24-1, 24-3 except the desired access point 24-2 to suppress their beacons."

See Crosbie at ¶0044 (emphasis added). The Examiner seems to equate Crosbie's wireless local area network, mobile device 26, request and roaming server 22 to Applicant's "hybrid wired/wireless local area network", "access

device", "polling message" and "switch", respectively. The Applicant respectfully disagrees and points out that Crosbie clearly discloses that the request is a **request for service** from an access point, which is **not** a "**polling message**", as alleged by the Examiner.

In addition, assuming arguendo that Crosbie's forwarded request is the alleged "responsive to said polling message" (which it is not), Crosbie still does not disclose or suggest "**communicating a load on** said one or more of **said plurality of access points to a switch**," as recited in Applicant's claim 1. Crosbie's paragraph 0044 discloses that upon receiving the request (the alleged "polling message") forwarded by the access point, the roaming server (the alleged "switch") "**looks up the user's service level data 47 in the device database 42** (see FIG. 2) **and the loading on each of the relevant access points 24**". In other words, no load information is communicated by the relevant access point to the roaming server, instead, **the load information of the relevant access point is looked up directly in the device database** 42, which is **stored within the roaming server 22** (the alleged "switch").

The Examiner states the following regarding Kostic:

> "Kostic et al. also discloses the centrally controlled optimal load balancing method in a hybrid wired/wireless local area network [Figures 5, 8 & 9] in which access points communicates load information to the switch in response to mobile device service request message [0042]."

See page 6 at the Office Action. The Examiner relies on Kostic's ¶0042 and equates Kostic's **central access point controller** receiving loading information from the access points to Applicant's "switch". Kostic, however, does not disclose that the central access point controller has any function of a "switch". In this regard, Kostic does not disclose or suggest "**communicating a load on** said one or more of **said plurality of access points to a switch**," as recited in Applicant's claim 1, and Kostic, therefore, does not overcome Crosbie's above deficiencies. Therefore, the Applicant maintains that the combination of Crosbie and Kostic does not disclose or suggest "responsive to said one or more polling message, **communicating a load on** said one or more of **said plurality of access points to a switch**," as recited in Applicant's claim 1.

The Examiner further states the following regarding Crosbie:

> "One of ordinary skilled in the art would realized that access points and roaming server i.e., claimed switch must be configured to communicate with each other for load information of respective access points to achieve network optimal load balancing in the Crosbie's optimal load balancing method but does not explicitly disclose that communication is responsive to said polling message."

See page 5 of the Office Action. Regarding the Examiner's allegation that "claimed switch must be configured to communicate with each other for load information of respective access points to achieve network optimal load balancing in the Crosbie's optimal load balancing method", the Examiner is referred to the Applicant's above argument that Crosbie's access points load information are

already stored within the roaming server 22 (the alleged "switch"). In other words, there is no communication of the load from the access point to roaming server 22 (the alleged "switch"). Kostic also does not disclose the alleged switch, and therefore does not overcome Crosbie's above deficiencies.

Accordingly, the Applicant maintains that the combination of Crosbie and Kostic does not disclose or suggest "**said switch determines optimal load balancing for** said one or more of said plurality of **access points based on said communicated load**," as recited in Applicant's claim 1.

Moreover, the Applicant submits that the combination of Crosbie and Kostic also does not disclose or suggest "said **access device selects and re-establishes** communication **with** one or more of said **plurality of access points based on** said communicated information of said **determined optimal load balancing**," as recited in Applicant's claim 1.

The Examiner states the following regarding Crosbie:

> "**Crosbie discloses**...Communicating information of said determined optimal load balancing for said one or more of plurality of access points to said access device, wherein **said access device re-establishes communication with one or more of said plurality of access points based on said communicated information of said determined optimal load balancing** [communicating the mobile device to re-establish with better access point based on said communicated information of said determined optimal load balancing i.e., better access point information: 007, 0042-0047 & 0055]."

See page 6 of the Office Action. The Examiner relies for support on Crosbie's ¶¶0042-0047. The Applicant, however, refers the Examiner to the following citation of Crosbie:

> "…The **roaming server** 22 **directs the mobile device** 26 **to transfer from the primary access point** 24-1 **to a secondary access point** 24-2 **that has the better connection quality for the connection 30-2 (quality of the radio link) to the mobile device** 26. This transfer may be temporary and the transient situation may terminate; for example, if the person obstructing the path moves out of the path. Then **the roaming server 22 directs the mobile device 26 to transfer back** from the secondary access point 24-2 to the primary access point 24-1."

See Crosbie at ¶0047 (emphasis added). Crosbie clearly discloses that **it is the roaming server** 22 (the alleged "switch"), and **not the mobile device** 26 itself, which directs or selects which AP the mobile device should establish connection with. In this regard, Crosbie does not disclose or suggest "said **access device selects and re-establishes** communication **with** one or more of said **plurality of access points based on** said communicated information of said **determined optimal load balancing**," as recited in Applicant's claim 1. **Kostic** in ¶0042, **discloses that it is the AP controller** (**not the mobile station itself**), that selects and determines which AP the mobile station should associate with (re-establish communication with the AP). In this regard, Kostic does not overcome Crosbie's above deficiencies.

Therefore, based on the foregoing rationale, the Applicant maintains that the combination of Crosbie and Kostic does not establish a prima facie case of

obviousness to reject Applicant's claim 1. The Applicant respectfully requests that the rejection of independent claim 1 under 35 U.S.C. § 103(a) be withdrawn.

Likewise, independent claims 9, 17, 27 and 37 are similar in many respects to claim 1, and are therefore submitted to be allowable for the same rationale presented in claim 1.

B. Rejection of Dependent Claims 2-8, 10-16, 18-22, 24-26, 28-36 and 38-46

Based on at least the foregoing, the Applicant believes the rejection of independent claims 1, 9, 17, 27 and 37 under 35 U.S.C. § 103(e) as being unpatentable by the combination of Crosbie and Kostic has been overcome and requests that the rejection be withdrawn. Additionally, claims 2-8, 10-16, 18-22, 24-26, 28-36 and 38-46 depend directly or indirectly from independent claims 1, 9, 17, 27 and 37, and are, consequently, also respectfully submitted to be allowable.

C. Rejection of Dependent Claims 2, 5-8, 19, 13-16, 21-22, 24-26, 31-36 and 41-46

The Applicant notices that the Examiner rejected the above dependent claims based on the argument of "obvious to one of ordinary skilled in the art..." without providing factual support. The Examiner is respectfully referred to the following citation in MPEP at § 2142:

> The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not

> produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

Since the Examiner has not provided any factual support to the arguments of the above dependent claims, the Applicant, therefore maintains that claims 2, 5-8, 19, 13-16, 21-22, 24-26, 31-36 and 41-46 are allowable based on MPEP at § 2142.

D. Rejection of Dependent Claims 3-4, 11-12, 19-20, 28-30 and 38-40

The Applicant notices that the Examiner rejected the above dependent claims based on Official Notice. More specifically, the Examiner in page 7 of the Office Action relies for support on Crosbie's (*see* Crosbie ¶¶0044-0047) and Kostic (*see* Kostic ¶¶0027-0029, 0036-0038 and claim 11) discloses the mobile station selects the APS with best quality of service.

The Applicant respectfully disagrees, and refers the Examiner to Applicant's above arguments. Namely, Crosbie (*see* Crosbie ¶¶0044-0047) discloses that it is the roaming server 22, not the mobile device, selects to connect to which AP for best quality of service. Likewise, Kostic (*see* Kostic ¶¶0042) also discloses that it is the AP controller, not the mobile station, selects to associate or disassociate with which AP for least load.

Furthermore, the Examiner is also referred to Kostic's claim 11, which states the following:

> "The method according to claim 1, further including **determining a loading level** of the first one of the plurality **of access points by determining** one or more of a number of currently associated mobile stations, link bandwidth, traffic levels, and a measurement of received signal power **from a subset of mobile stations**."

The Applicant points out that Kostic's claim 11 recites that the **AP loading level is determined by the various parameters measured from the mobile stations**. The Examiner seems to have misinterpreted Kostic's claim 11 as the mobile station selects which AP with the best quality of service to associate with.

Based on the foregoing rationale, the Applicant maintains that Crosbie and Kostic do not support the Examiner's alleged Official Notice arguments. Claims 3-4, 11-12, 19-20, 28-30 and 38-40 are therefore submitted to be allowable.

The Applicant reserves the right to argue additional reasons to support the allowability of claims 1-22 and 24-46 should such a need arise.

CONCLUSION

Based on at least the foregoing, the Applicant believes that all claims 1-22 and 24-46 are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a telephone interview, and requests that the Examiner telephone the undersigned Patent Agent at (312) 775-8093.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

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